

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 – 9 (cancelled).

10. (Original) A second-generation colloid prepared by
 - (a) polymerizing one or more polymerizable components around a first-generation colloidal template;
 - (b) selectively removing the first-generation colloidal template to yield a porous polymer;
 - (c) depositing a material into the pores of the porous polymer; and
 - (d) selectively removing the porous polymer.
11. (Original) The second-generation colloid of claim 10 wherein the porous polymer is an ordered, monodisperse macroporous polymer and the second-generation colloid is an ordered, monodisperse colloid.
12. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a ceramic material.
13. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a material selected from the group consisting of alumina, titania and zirconia.
14. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises an inorganic salt.
15. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a material selected from the group consisting of cadmium sulfide and silver chloride.

16. (Currently amended) [The second-generation colloid of claim 11 wherein said second-generation colloid comprises a metal.] A metallic second-generation ordered, monodisperse colloid prepared by

- (a) polymerizing one or more polymerizable components around a first-generation colloidal template;
- (b) selectively removing the first-generation colloidal template to yield an ordered, monodisperse porous polymer having pores;
- (c) depositing a metal into the pores of the porous polymer; and
- (d) selectively removing the porous polymer.

17. (Currently amended) The second-generation colloid of claim [11] 16 wherein said second-generation colloid comprises a material selected from the group consisting of nickel and gold.

18. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a polymer.

19. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a material selected from the group consisting of poly(p-phenylene vinylene), polypyrrole, poly(methyl methacrylate) and polystyrene.

20. (Original) The second-generation colloid of claim 11 wherein said second-generation colloid comprises spherical particles.

21. (Currently amended) [The second-generation colloid of claim 11 wherein said second-generation colloid comprises ellipsoidal particles.] An ellipsoidal second-generation ordered, monodisperse colloid prepared by

- (a) polymerizing one or more polymerizable components around a first-generation colloidal template;
- (b) selectively removing the first-generation colloidal template to yield an ordered, monodisperse porous polymer having ellipsoidal pores;
- (c) depositing a metal into the pores of the porous polymer; and

(d) selectively removing the porous polymer.

22 – 29 (Cancelled).

30 (Original) A method for preparing a second-generation colloid comprising the steps of:

- (a) providing a colloidal template;
- (b) infiltrating said colloidal template with polymerizable components;
- (c) polymerizing said polymerizable components;
- (d) selectively removing said colloidal template to yield a porous polymer;
- (e) depositing a material into the pores of said porous polymer; and
- (f) selectively removing said porous polymer.

31. (Original) The method according to claim 30 wherein said colloidal template is an ordered, monodisperse colloid; said porous polymer is an ordered, monodisperse macroporous polymer; and said second-generation colloid is an ordered, monodisperse colloid.

32. (Original) The method according to claim 31 wherein said second-generation colloid comprises a ceramic material.

33. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of alumina, titania and zirconia.

34. (Original) The method according to claim 31 wherein said second-generation colloid comprises an inorganic salt.

35. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of cadmium sulfide and silver chloride.

36. (Original) The method according to claim 31 wherein said second-generation colloid comprises a metal.

37. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of nickel and gold.
38. (Original) The method according to claim 31 wherein said second-generation colloid comprises a polymer.
39. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of poly(p-phenylene vinylene) and polypyrrole.
40. (Original) The method according to claim 31 wherein said porous polymer comprises a material selected from the group consisting of poly(methyl methacrylate) and polystyrene.
41. (Original) The method according to claim 31 wherein said second-generation colloid comprises spherical particles.
42. (Original) The method according to claim 31, further comprising the step of deforming said porous polymer so that said second-generation colloid comprises ellipsoidal particles.
43. (Cancelled).
44. (Original) An optical bandgap material comprising an ordered, monodisperse colloid prepared by first depositing a material into the pores of a porous polymer prepared by polymerization of one or more polymerizable components housing an ordered, monodisperse colloidal template and second selectively removing said colloidal template.